

Name \_\_\_\_\_

Date \_\_\_\_\_

AE Chemistry  
Classification of Matter

Use your notes and concept map to answer the following questions.

1. Define the following terms

Heterogeneous

Homogeneous

2. Classify each of the following as a *homogeneous* or *heterogeneous* substance.

a. Iron Filings \_\_\_\_\_

b. Granite \_\_\_\_\_

c. Soft Drink \_\_\_\_\_

d. Milk \_\_\_\_\_

e. Foul Water \_\_\_\_\_

f. Cement \_\_\_\_\_

3. a. Use your concept map and flow chart to classify each if they are a **Pure Substance** or a **Mixture**.

b. If it is a pure substance, indicate if it is an **Element** or **Compound**.

If it is a mixture, indicate if is **Heterogeneous** or **Homogeneous**.

Chlorine \_\_\_\_\_

Water \_\_\_\_\_

Soil \_\_\_\_\_

Sugar Water \_\_\_\_\_

Oxygen \_\_\_\_\_

Carbon Dioxide (CO<sub>2</sub>) \_\_\_\_\_

Rocky Road Ice Cream \_\_\_\_\_

Air \_\_\_\_\_

Iron \_\_\_\_\_

Orange Juice with Pulp \_\_\_\_\_

Choose the word from the word bank below to fill in the blanks in the following paragraphs relating to classification of matter. Some words may not be used at all.

atoms	definite	homogeneous	mixtures
molecules	distillation	heterogeneous	substances
chemical	elements	identical	can
physical	compounds	different	cannot
varying	Tyndall Effect	suspension	colloid
settle	whole number	smallest	

An element is a substance that \_\_\_\_\_ be decomposed by chemical change. All atoms of a particular element are \_\_\_\_\_ in nearly all properties. The fundamental units of all elements are \_\_\_\_\_.

A compound is a substance that \_\_\_\_\_ be decomposed by a chemical change. All samples of a compound have a \_\_\_\_\_ chemical composition. Compounds are composed of two or more elements combined in a \_\_\_\_\_ ratio. The smallest units of most compounds are called \_\_\_\_\_.

A mixture consists of two or more \_\_\_\_\_ that differ in their properties and make-up. Mixtures may have \_\_\_\_\_ compositions. Mixtures that have uniform compositions throughout are called \_\_\_\_\_. Mixtures whose compositions that are not uniform throughout are called \_\_\_\_\_. A mixture may be separated by into its components by such processes as filtration, centrifugation, or \_\_\_\_\_. These processes are based on differences in the \_\_\_\_\_ properties of the substances making up the mixture.

There are other types of mixtures called \_\_\_\_\_, \_\_\_\_\_, and solutions. The solution has the \_\_\_\_\_ particles, while a suspensions particles can be see and will \_\_\_\_\_. The colloids can be identified because you can see a beam of light because of \_\_\_\_\_.